

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of : Peter Wilding et al.
Serial No. : Not yet assigned
Filing Date : Herewith
Examiner : Not yet assigned
Group Art Unit : Not yet assigned
Entitled : DEVICE AND METHOD FOR THE
DETECTION OF AN ANALYTE
UTILIZING MESOSCALE FLOW
SYSTEMS

Suite 2400
1601 Market Street
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Our File No. 1070-PENN-E890-CON5

Assistant Commissioner
for Patents
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Dear Sir:

In accordance with the provisions of 37 C.F.R. §1.56, applicants hereby submit the attached PTO Form-1449, listing references which the Patent Examiner is requested to consider and make of record in the above-identified application. Copies of the listed references are enclosed herewith. This submission is believed to be in full compliance with the requirements of 37 C.F.R. §1.98.

In the opinion of the undersigned, the foregoing references are the most pertinent of which the undersigned is aware. However, no representation is made or intended that more pertinent references do not exist.

This submission is not an admission that the reference listed on the attached Form PTO-1449 constitute prior art against the claims of this application.

The Examiner is respectfully requested to confirm receipt and consideration of the cited references by initialing the returning a copy of the attached Form PTO-1449 in accordance with MPEP §609.

Early and favorable consideration leading to prompt issuance of this application is earnestly solicited.

In the event any fee is due in connection with the consideration of this request, the Commissioner is authorized to charge any such fee to the account of the undersigned attorneys, Deposit Account No. 04-1406.

DANN, DORFMAN, HERRELL
and SKILLMAN, P.C.
Agent for Applicant

By Patrick J. Hagan
Patrick J. Hagan
Registration No. 27,643

Enclosures

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|---|---|----|---|---|-------------------------------|
| FORM PTO-1449 (Modified) INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary) | | | | Application No.: Not yet assigned | Art Unit: Not yet assigned |
| | | | | Filing Date: | Examiner Name: |
| | | | | Herewith | Not yet assigned |
| | | | | First Named Inventor: | Attorney Docket No.: |
| | | | | Peter Wilding | 1070-PENN-E890-CON5 |
| Sheet | 1 | of | 1 | | |

U.S. PATENT DOCUMENT

| Examiner Initial | CITE NO. | Document Number | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document |
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FOREIGN PATENT DOCUMENTS

| Examiner Initial | CITE NO. | Foreign patent Document Number | COUNTRY | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | English Translation Attached |
|------------------|----------|--------------------------------|---------|-----------------------------|---|------------------------------|
| | B1 | WO 91/16966 | WO | November 14, 1991 | Ekstrom et al. | |
| | | | | | | |

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

| Examiner Initial | CITE NO. | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher city and/or country where published | English Translation Attached |
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| EXAMINER SIGNATURE: | DATE CONSIDERED: |
| EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. | |

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Assistant Commissioner
for Patents
Alexandria, VA 22313-1450

REQUEST FOR LISING OF REFERENCES

Dear Sir:

Applicants in the above-identified application are
submitting herewith the following documents:

1. A copy of Form PTO-892 (Notice of References Cited)
from the great grandparent case, U.S. Application No.
08/811,873, filed March 5, 1997;
2. A copy of Form PTO-892 (Notice of References Cited)
from the great great grandparent case, U.S.
Application No. 08/347,498, filed November 30, 1994;
and
3. A copy of Forms PTO-1449 which were filed in the
great great great grandparent case, U.S. Application
No. 07/877,702, filed May 1, 1992.

It is respectfully requested that the references included
in the above-mentioned Forms PTO-892 and Forms PTO-1449 be
listed on the face of the patent granted to the above-

identified application, in accordance with the following provision of §609 of the Manual of Patent Examining Procedure:

[T]he examiner will consider information
**>which has been considered by< the
Office in a parent application when
examining a continuation or continuation-
in-part application (See MPEP §>201.06(b)<
which is not a file wrapper continuing
application, and a list of the information
need not be submitted in the
*>continuation or continuation-in-part<
application unless applicant desires the
information to be printed on the patent
[emphasis added].

In the event any fee is due in connection with the consideration of this request, the Commissioner is authorized to charge any such fee to the account of the undersigned attorneys, Deposit Account No. 04-1406.

DANN, DORFMAN, HERRELL
and SKILLMAN, P.C.
Agent for Applicant

By Patrick J. Hagan
Patrick J. Hagan
Registration No. 27,643

Enclosures

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NOTICE OF REFERENCES CITED

APPLICANT(S)

Wilding et al

U.S. PATENT DOCUMENTS

| | DOCUMENT NO. | DATE | NAME | CLASS | SUB-CLASS | FILING DATE IF APPROPRIATE |
|---|--------------|---------|---------------|-------|-----------|----------------------------|
| A | 5304487 | 4/19/94 | Wilding et al | 422 | 55 | 5/1/92 |
| B | 5677469 | 6/10/97 | Wilding et al | 422 | 55 | 11/30/94 |
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FOREIGN PATENT DOCUMENTS

| | DOCUMENT NO. | DATE | COUNTRY | NAME | CLASS | SUB-CLASS | PERTINENT SHTS. DWG. | PP. SPEC. |
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OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

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NOTICE OF REFERENCES CITED

APPLICANT(S)

Wilding et al

U.S. PATENT DOCUMENTS

| * A | DOCUMENT NO. | DATE | NAME | CLASS | SUB-CLASS | FILING DATE IF APPROPRIATE |
|-----|--------------|---------|---------------|-------|-----------|----------------------------|
| A | 5304487 | 4/14/94 | Wilding et al | 422 | 55 | 5/1/92 |
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FOREIGN PATENT DOCUMENTS

| * L | DOCUMENT NO. | DATE | COUNTRY | NAME | CLASS | SUB-CLASS | PERTINENT SHTS. DWG. | PP. SPEC. |
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OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

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EXAMINER

C. C. Chi

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| FORM PTO-1449 | | | | ATTY DOCKET NO.: UPA-001 (8261/2) | | | | | |
|-----------------------------------|----|--|-------|-----------------------------------|-------|-----------|----------------------------|---------------|------------------|
| INFORMATION DISCLOSURE STATEMENT | | | | APPLICANT: Wilding et al. | | | | | |
| | | | | SERIAL NO.: 07/877,702 | | | | | |
| | | | | FILING DATE: May 1, 1992 | | GROUP: | | | |
| U.S. PATENT DOCUMENTS | | | | | | | | | |
| EXAM. INIT. | | DOCUMENT NUMBER | DATE | NAME | CLASS | SUB CLASS | FILING DATE IF APPROPRIATE | | |
| | AA | 4,233,029 | 11/80 | Columbus | | | | | |
| | AB | 4,302,313 | 11/81 | Columbus | | | | | |
| | AC | 4,618,476 | 10/86 | Columbus | | | | | |
| | AD | 4,911,782 | 3/90 | Brown | | | | | |
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| FOREIGN PATENT DOCUMENTS | | | | | | | | | |
| EXAM. INIT. | | DOCUMENT NUMBER | DATE | COUNTRY CODE | CLASS | SUB CLASS | FILING DATE | ABSTRACT ONLY | ENGLISH LANG Y/N |
| | BA | 0 320 308 | 6/89 | EP | | | | | Y |
| | BB | 0 439 182 | 7/91 | EP | | | | | Y |
| | BC | 3,915,920 | 11/90 | DE | | | | | N |
| | BD | 2,191,110 | 12/87 | GB | | | | | Y |
| OTHER ART, JOURNAL ARTICLES, ETC. | | | | | | | | | |
| EXAM. INIT. | | | | | | | | | |
| | CA | Anderson, <u>Nature</u> , 355:379 (1992). | | | | | | | |
| | CB | Angell, et al., <u>Scientific American</u> , 248:44-55 (1983). | | | | | | | |
| | CC | Appenzeller, <u>Science</u> , 254:1300-1342 (1991). | | | | | | | |
| | CD | Barany, <u>Proc. Natl. Acad. Sci</u> , 88:189-192 (1991). | | | | | | | |
| | CE | Brown, "Development of a Stopped-Flow Cytometer, "NSF Grant No. ISI 87-60730 | | | | | | | |
| | CF | Brunette, <u>Exper. Cell Res.</u> , 167: 203-217 (1986). | | | | | | | |
| | CG | Brunette, <u>Exper. Cell Res.</u> , 164: 11-26 (1986). | | | | | | | |

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| | | SERIAL NO.: 07/877,702 | |
| | | FILING DATE: May 1, 1992 | GROUP: |
| EXAM. INIT. | | | |
| | CH | Columbus et al., <u>Clin. Chem.</u> , 33:1531-1537 (1987). | |
| | CI | DeLuca et al., <u>Arch. Biochem. Biophys.</u> , 255:285-292 (1983). | |
| | CJ | Dessy, <u>Chemometrics and Intelligent Laboratory Systems</u> , 8:311 (1990) Abstract. | |
| | CK | Esashi et al., "Integrated Flow Control Systems Fabricated on a Silicon Wafer," Proceedings, Electrochemical Society Conference, HI (18-23 October, 1987), Electrochemical Society, Pennington, NJ, pp. 31-38B, 1987. | |
| | CL | Fromherz et al., <u>Biochimica et Biophysica Acta</u> , 1062:103-107 (1991). | |
| | CM | Goin et al., <u>Clin. Chem.</u> , 32:1655-1659 (1986). | |
| | CN | Haller in: <u>Solid Phase Biochemistry</u> , W.H. Scouten, Ed., John Wiley, New York, pp. 535-597 (1983). | |
| | CO | Hanazato et al., <u>IEEE Transactions Electron. Devices</u> ; ED33:47-51 (1986). | |
| | CP | Hoopman, "Microchanneled Structures," Applied Technology Laboratory, 3M Center, St. Paul, MN 55144-1000 | |
| | CQ | Howe et al., <u>IEEE Transactions Electron Devices</u> , ED33:499-506 (1986). | |
| | CR | Hung et al, <u>Med. & Biol. Engng.</u> , 9:237-245 (1971). | |
| | CS | Jonsson, <u>Methods in Enzymology</u> , 137:381-389 (1988). | |
| | CT | Kennedy et al., <u>Clin. Chem. Acta.</u> , 70:1-31 (1976). | |
| | CU | Kenny et al., <u>Appl. Phys. Lett.</u> , 58:100-102 (1991). | |
| | CV | Kikuchi et al., "Microchannels Made on Silicon Wafer for Measurement of Flow Properties of Blood Cells," <u>Biorheology</u> , 26:1055 (1989), Abstract. | |
| | CW | Kittilsland et al., <u>Journal de Physique</u> , 49 (C4):641-644 (1988). | |
| | CX | Kittilsland et al., <u>Sensors and Activators</u> , A21-A23:904-907 (1990). | |
| | CY | Kricka et al., "Liquid Transport in Micron and Submicron Channels," <u>SPIE</u> , 1167:159-168 (1989). | |
| | CZ | Kricka et al., <u>Clin Chem.</u> , 26:741-744 (1980). | |
| | CCA | LaCelle, <u>Blood Cells</u> , 12:179-189 (1986). | |
| | CCB | Mandenius et al., <u>Anal. Biochem.</u> , 137:106-114 (1984). | |
| | CCC | Mandenius et al., <u>Anal. Biochem.</u> , 170:68-72 (1988). | |

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| EXAM. INIT. | | FILING DATE: May 1, 1992 | GROUP: |
| | CCD | Mandenius et al., <u>Methods in Enzymology</u> , 137:388-394 (1988). | |
| | CCE | Manz et al., <u>Trends in Anal. Chem.</u> , 10:144-149 (1991). | |
| | CCF | Masuda et al., <u>Proc. IEEE/IAS Meeting</u> , pp. 1549-1553 (1987) | |
| | CCG | McCartney et al., <u>Cancer Res.</u> , 41:3046-3051 (1981). | |
| | CCH | Moghissi et al., <u>Am. J. Obstet. Gynecol.</u> , 114:405-(1972). | |
| | CCI | Nakamura, <u>Immunochemical Assays and Biosensor Technology for the 1990's</u> , American Society of Microbiology, Washington, D.C., pp. 205-215 (1992). | |
| | CCJ | Nakamura et al., <u>Anal. Chem.</u> , 63:268-272 (1991). | |
| | CCK | Parce et al., <u>Science</u> , 24:243-247 (1989). | |
| | CCL | Rosenberg et al., <u>Clin. Chem.</u> , 30:1462-1466 (1984). | |
| | CCM | Rosenberg et al., <u>Clin. Chem.</u> , 31:1444-1448 (1985). | |
| | CCN | Sankolli et al., <u>J. Immun. Methods</u> , 104:191-194 (1987). | |
| | CCO | Sato, et al., <u>Sensors and Actuators</u> , A21-A23:948-951 (1990). | |
| | CCP | Shoji, et al., <u>Sensors and Actuators</u> , 15:101-107 (1988). | |
| | CCQ | Stange et al., <u>Biomaterials</u> , 9:3-6 (1988). | |
| | CCR | Van Lintel, <u>Sensors and Actuators</u> , 15:153-167 (1988). | |
| | CCS | Wallis et al., <u>J. Amer. Ceramic Soc.</u> , 53:563-567 (1970). | |
| | CCT | Washizu et al., <u>Proceedings IEEE/IAS Meeting</u> , pp. 1735-1740 (1988). | |
| | CCU | Weissman et al. <u>Am Inst. Chem. Eng. J.</u> 17:25-30 (1971). | |
| | CCV | Zemel et al. in: <u>Fundamentals and Applications of Chemical Sensors</u> , D. Schuetzle and R. Hammerle, Eds., Washington, D.C., 1986, p. 2-38. | |
| | CCW | Biotrack, Ciba Corning, May, 1989. | |
| | CCX | Wilding, <u>Advanced Hospital Technology Laboratory</u> , October, 1990 pp. 38-42. | |
| | CCY | Roche, On-Trak TM , September, 1988. | |
| EXAMINER | | DATE CONSIDERED | |

FORM PTO-1449

INFORMATION DISCLOSURE STATEMENT

ATTORNEY DOCKET NO.: UPA-001 (8261/2)

APPLICANT: Wilding et al.

SERIAL NO.: 07/877,702

FILING DATE: 05/01/92

GROUP :

U.S. PATENT DOCUMENTS

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FOREIGN PATENT DOCUMENTS

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U.S. PATENT DOCUMENTS

| EXAM. INIT. | | DOCUMENT NUMBER | DATE | NAME | CLASS | SUB CLASS | FILING DATE IF APPROPRIATE |
|----------------|----|--------------------|----------|----------|-------|--------------|-------------------------------|
| | AA | 4,963,498 | 10/16/90 | Hillman | | | |
| | AB | 5,135,720 | 08/04/92 | Uchida | | | |
| | AC | 5,147,606 | 09/15/92 | Charlton | | | |
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| EXAM. INIT. | | OTHER ART, JOURNAL ARTICLES, ETC. |
|----------------|----|--|
| | CA | Kinosita et al., "Dual-View Microscopy With A Single Camera: Real-Time Imaging Of Molecular Orientations And Calcium," <u>J. Cell Biol.</u> , <u>115</u> :67-73 (1991) (Abstract). |
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FORM PTO-1449

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FILING DATE: 05/01/92

GROUP:

U.S. PATENT DOCUMENTS

| EXAM. INIT. | | DOCUMENT NUMBER | DATE | NAME | CLASS | SUB CLASS | FILING DATE IF APPROPRIATE |
|----------------|----|--------------------|---------|---------|-------|--------------|-------------------------------|
| | AA | 4,906,439 | 3/06/90 | Grenner | | | |
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| EXAM. INIT. | | OTHER ART, JOURNAL ARTICLES, ETC. |
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EXAMINER

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|----------------|----|--------------------|----------|------|-------|--------------|-------------------------------|
| | AA | 4,908,112 | 03/13/90 | Pace | | | |
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| EXAM. INIT. | | DOCUMENT NUMBER | DATE | COUNTRY CODE | CLASS | SUB CLASS | FILING DATE | ABSTRACT ONLY | ENGLISH LANG Y/N |
|----------------|----|--------------------|-------|-----------------|-------|--------------|----------------|------------------|---------------------|
| | BA | 91/16966 | 11/91 | PCT | | | | | |
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FORM PTO-1449

INFORMATION DISCLOSURE STATEMENT

ATTORNEY DOCKET NO.: UPA-001 (8261/2)

APPLICANT: Wilding et al.

SERIAL NO.: 07/877,702

FILING DATE: 05/01/92

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U.S. PATENT DOCUMENTS

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|----------------|----|--------------------|---------|-----------------|-------|--------------|----------------|------------------|---------------------|
| | BA | WO 91/13338 | 9/05/91 | PCT | | | | | |
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| EXAM. INIT. | | OTHER ART, JOURNAL ARTICLES, ETC. |
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